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discharged in the vicinity of the venturi neck and said gas phase being recovered at the outlet of the divergent tube of the venturi neck.

8. (Amended) A process as claimed in claim 1, wherein at least one of the gas phases obtained in stage c) and in stage d) is used to cool at least one of the gas phases obtained in stage a) and in stage b).

9. (Amended) A process as claimed in claim 1, wherein:

f) at least part of the liquid phase obtained in stage b) is vaporized and said vaporized at least part of the liquid phase is fed into the distillation column so as to create an ascending vapour flow in said column.

10. (Amended) A process as claimed in claim 1, wherein part of the heat of the liquid phase obtained in stage b) is used to heat the gas phase obtained in stage a).

11. (Amended) A process as claimed in claim 1, wherein in stage a), the liquid phase and the gas phase are separated in a drum and at least part of the liquid phase obtained in stage b) is fed into said drum.

12. (Amended) A process as claimed in claim 1, wherein the operating conditions are as follows:

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- Distillation column in stage b)
 $T^{\circ}\text{C} = -20^{\circ}\text{C} \text{ to } 100^{\circ}\text{C},$
 $P > 1 \text{ MPa abs.}$
 - Pressure and cooling temperature in stage c)
 $T^{\circ}\text{C} = -100^{\circ}\text{C} \text{ to } + 30^{\circ}\text{C},$
 $P > 1 \text{ MPa},$
 - Temperature to which said natural gas is cooled in stage a)
 $0 \text{ to } 50^{\circ}\text{C}.$

13. (Amended) A process as claimed in claim 1, wherein the natural gas under pressure has a partial hydrogen sulfide pressure of at least 0.5 MPa.

14. (Amended) A process as claimed in claim 1, wherein a distillation column having at least 3 theoretical stages is used.

15. (Amended) A process as claimed in claim 1, wherein in stage a), the natural gas is at a pressure ranging between 6.5 MPa and 12 MPa, and at a temperature above 15°C.

16. (Amended) A process as claimed in claim 1, wherein:

g) the liquid phases obtained in stages a) and b) are fed into a well.

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